**Project Overview**

There are different approaches used for the machine translation form one language to another language. Machine translation can apply a technique based on linguistic set of laws, which means that words will be translated in a linguistic mode the most suitable words of the target language will replace the ones in the source language. Three different approaches to MT have been generally used-

1. Rule Based machine translation (RBMT)
2. Example based machine translation (EBMT)
3. Statistical machine translation (SMT) approach and recent approaches to machine translation are knowledge-based, corpus-based, hybrid methods etc.

The rule based machine conversion model includes transfer based machine translation, interlingua machine conversion and dictionary based machine conversion paradigms. It uses the rules for their mapping process. The concept of RBMT systems is based on between the structure of the given source sentence with the structure of the target output sentence, necessarily preserving their unique meaning. The example based machine translation (EBMT) approach to machine conversion is often characterized by its use of a bilingual amount or corpus with similar texts as its main source language knowledge base, at run-time. The Example Based Machine Translation (EBMT) is one of the most popular machine translation mechanisms which retrieve similar examples with their translation from the example data base and adapting the examples to translate a new source text.

In proposed system we are going to combine both approaches and will try to get best features from those. Hybrid machine translation (HMT) leverages the strengths of example-based and rule-based translation methodologies.

In proposed system we will provide simple SVO order English statements as an input and we will get corresponding Sanskrit statement.

The flow will be like this; first the statement is get send to the example based machine translator (EBMT) module. Here it will get checked with the present corpus, now if system found the statement already present in the corpus then it will give directly output.

If we didn’t found any corpus in present database then it will get transfer to the rule based machine translator (RBMT) module. Here input will go through various steps.

Tokenization: This module splits the given sentence into chunks of strings delimited by spaces. These strings may be simple words or compound words coalesced by the rule of English Grammar. By applying the rules of English grammar assign appropriate category to words like (noun, verb, noun phrase etc.)

Tagging: Here each word is get tagged with appropriate means.

Parse tree generator: It generate a parse tree using grammar rules of source language.

Bilingual Dictionary & Sanskrit sentence generator: Here it’ll find translation of all English words into Sanskrit dictionary and rearrange the words in Sanskrit using its grammar rule to format and a meaningful statement.

In this paper we consider dictionary rule based approach is for translation and synthesizer. In dictionary based approach words are stored in Database dictionary and when we got input then English sentence are separated from sentence by tokenization then morphological analysis is done, after getting the words its search into English dictionary and according to word its category e.g. (noun, verb) is assigned. If we compare the Grammar for both English and Sanskrit then English sentences always in order of subject-verb-object format while Sanskrit has free word order.

**Papers Referred**

[1] Vimal Mishra and R. B. Mishra “Study of Example Based English to Sanskrit Machine

Translation”

[2] Sinha RM.K. and Jain A., “AnglaHindi: An English to Hindi Machine-Aided Translation

System.”, “MT SUMMIT IX”, New Orleans, Louisiana, USA-2003

[3] English to Sanskrit Machine Translator Lexical Parser And Semantic Mapper Ms.Vaishali.M.Barkade", Prof. Prakash R. Devale ", Dr. Suhas H. Patil'.

[4] A Design Towards English to Sanskrit Machine Translation Synthesizer System Using Rule Based Approach D. T. MANE, P. R. DEVALE AND S.D. SURYAWANSm

[5] Jyoti Srivastava, Sudip Sanyal, “A Hybrid Approach for Word Alignment in English-Hindi Parallel Corpora with Scarce Resources” 2012 International Conference on Asian Language Processing.

**References**

**Papers*:***

[1] Vimal Mishra and R. B. Mishra “Study of Example Based English to Sanskrit Machine

Translation”

[2] Sandeep R. Warhade, Prakash R. Devale, Dr. S.H.Patil , “Statistical Machine Translation Approach for English-to-Sanskrit Translation in Ubiquitous Environment”, International Journal of Engineering and Innovative Technology (IJEIT), June 2012

[3] Sitender, Seema Bawa,Dept. of CSE, Thapar University, Patiala, Punjab, India “Survey of Indian Machine Translation Systems” IJCST -Jan. - March 2012

[4] Ms.Vaishali.M.Barkade, Prof. Prakash R. Devale , Dr. Suhas H. Patil “English to Sanskrit Machine Translator Lexical Parser And Semantic Mapper”, National Conference On "Information and Communication Technology[NCICT-10]

[5] D. T. MANE, P. R. DEVALE AND S.D. SURYAWANS , “A Design Towards English to Sanskrit Machine Translation Synthesizer System Using Rule Based Approach, IJMRAE, July2010,

[6] Latha R. Nair, David Peter S. “Machine Translation Systems for Indian Languages”, International Journal of Computer Applications (0975 – 8887), February 2012

[7] Sinha RM.K. and Jain A., “AnglaHindi: An English to Hindi Machine-Aided Translation

System.”, “MT SUMMIT IX”, New Orleans, Louisiana, USA-2003

[8] Mrs. Namrata Tapaswi, Dr. Suresh Jain, Mrs. Vaishali Chourey, “PARSING SANSKRIT SENTENCES USING LEXICAL FUNCTIONAL GRAMMAR”, 2012 International Conference on Systems and Informatics.

[9] Jyoti Srivastava, Sudip Sanyal, “A Hybrid Approach for Word Alignment in English-Hindi Parallel Corpora with Scarce Resources” 2012 International Conference on Asian Language Processing.

**Internet Sources**:

[1] http://bhavinpathak.webs.com/sanskritinmodernera.htm

[2] http://en.wikipedia.org/wiki/Sanskrit

[3] http://www.vedicsciences.net/articles/sanskrit-nasa.html